Western SocialScience

Geography

GEOG 2210B – Introduction to Statistics for Geographers
Course Outline: Section 001 Winter 2020

1. Course Information

1.1. Classroom Location:

Class Location and Time: Lecture - UCC Room 37, Tuesday 10:30am-12:30pm;
Labs - SSC Room 1425, 02- Tuesday 12:30pm-2:30pm, 03-Wednesday 12:30pm-2:30pm, 04-Wednesday 2:30pm-4:30pm

Contact Information:

Instructor: Dr. Gina Martin
Office: SSC 2210
Office Hours: Thursday 10:00am -11:00am
Phone: 661-2111 x80577
Email: gmarti57@uwo.ca

TA: Brenton Button
Office: TBA
Office Hours: TBA
Email: bbutton3@uwo.ca

TA: Heather Peacock
Office: TBA
Office Hours: TBA
Email: hpeacock@uwo.ca

2. Calendar Description

2.1. Course Description

An introduction to the nature of geographical analysis of data and the application of statistical techniques and computing systems in Geography: data collection, research design, sampling; models of spatial data, probability, distributions, hypothesis testing, correlation and regression.

2 lecture hours, 2 lab hours, 0.5 course

Antirequisite(s): Biology 2244A/B, Economics 2122A/B, Economics 2222A/B, Health Sciences 3801A/B,MOS 2242A/B, Psychology 2810, Psychology 2820E, Psychology 2830A/B, Psychology 2850A/B, Psychology 2851A/B, Social Work 2207A/B, Sociology 2205A/B, Statistical Sciences 2035, Statistical Sciences 2141A/B, Statistical Sciences 2143A/B, Statistical Sciences 2244A/B, Statistical Sciences 2858A/B, Statistical Sciences 2037A/B if taken prior to Fall 2010,

former Psychology 2885 (Brescia), former Statistical Sciences 2122A/B, former Social Work 2205.

Prerequisite(s): 1.0 course from Geography 1100, Geography 1300A/B, Geography 1400F/G, Geography 1500F/G, Geography 2131A/B, Geography 2132A/B, Geography 2133A/B, Geography 2142A/B, Geography 2152F/G, Geography 2153A/B, Environmental Science 1021F/G; or enrolment in the Major in Physical Geography or in an Honors Earth Science Program for Professional Registration

Prerequisite checking is the student's responsibility

2.2. Senate Regulations

Senate Regulations state, "unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites."

3. Textbooks

(Optional) Kumar (2005), Research Methodology, 2nd Edition, SAGE Publications.

(Optional) Burt et al. (2011), Elementary Statistics for Geographers, 3rd Edition, The Guilford Press.

4. Course Objectives and Format

This course introduces students to research design and methodology with a focus on data description and analysis. It presents the general concepts of conducting research with a focus on the key aspects of study design. The course emphasizes techniques for analyzing quantitative data by teaching the fundamental underpinnings of statistical methods.

The course will be taught through a combination of lecture and lab exercises.

5. Learning Outcomes

By the end of the semester, you will:

- Have a thorough understanding of the basic components of research methodology including, formulating a research problem, conceptualizing a research design, collection and processing of data.
- Have a basic understanding of the fundamentals and theoretical underpinnings of statistical analysis of data.
- Be able to utilize basic statistical methods.
- Be able to critically evaluate the work of others who employ statistical methods.

6. Evaluation

6.1. Laboratory Exercises and Assignments

Laboratory exercises are the means by which you gain practical experience of material discussed in lectures. They provide an opportunity to explore and learn. Although a portion of marks are awarded for these exercises, note that they are primarily instructional rather than evaluative.

Effective and full use of the laboratory time is a key to success in the course; therefore, you are required to attend lab classes. The effectiveness of a laboratory session depends on your preparation and diligence in using the allocated time slot. During the allotted two-hour slot, work with the Teaching Assistant on difficulties and barriers you have encountered.

Electronic versions of all assignments will be handed in via OWL prior to the beginning of the next laboratory session on the due date provided on the course outline (usually one or two week(s) later, see late policy). It is the student's responsibility to ensure that completed assignments are properly uploaded to OWL – no exceptions. Graded exercises will be returned prior to the lab after they are due.

6.2. Examinations

There will be a midterm exam and a final examination. The mid-term exam (2 hours) will be held during lecture. The final examination (3 hours) will be scheduled during the examination period at the end of the term. The midterm and final examinations assess knowledge of lecture and labs.

Evaluation Components	**Percentage of Course Grade**	**Assignment Schedule**
First Course Requirement	30% (6 labs worth 5% each)	See lab schedule
Midterm Exam	35%	Tuesday, February 11th
Final Exam	35%	To be announced

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text.

Your evaluation will be based on your knowledge of course materials as substantiated in the midterm tests, final exam, class and lab participations. It may not be easy to get a good mark in this course. Here are some ways that may help you obtain a mark of 70 or above in this course. Attend and participate lecture and laboratory sessions. During class, take reasonable notes, ask questions for clarification of any terms, concepts or theories you have not understood. Ask for help in case you need additional clarification using office hours and lab sessions.

Late assignments will face deductions at the rate of 10% per day late.

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.

7. Medical Issues

For Western's NEW Policy on Accommodation for Illnesses please refer to the Academic Calendar' section on Academic Rights and Responsibilities.

Requesting Academic Consideration

Students who experience an extenuating circumstance (illness, injury, or other extenuating circumstance) sufficiently significant to temporarily render them unable to meet academic requirements may submit a request for academic consideration through the following routes:

(i) Submitting a Self-Reported Absence form provided that the conditions for submission are met;

(ii) For medical absences, submitting a Student Medical Certificate (SMC) signed by a licensed medical or mental health practitioner in order to be eligible for Academic Consideration; or

(iii) For non-medical absences, submitting appropriate documentation (e.g., obituary, police report, accident report, court order, etc.) to Academic Counselling in their Faculty of registration in order to be eligible for academic consideration. Students are encouraged to contact their Academic Counselling unit to clarify what documentation is appropriate.

Students seeking academic consideration:

- are advised to consider carefully the implications of postponing tests or midterm exams or delaying handing in work;
- are encouraged to make appropriate decisions based on their specific circumstances, recognizing that minor ailments (upset stomach) or upsets (argument with a friend) are not normally an appropriate basis for a self-reported absence;
- **must communicate with their instructors no later than 24 hours** after the end of the period covered by either the self-reported absence or SMC, or immediately upon their return following a documented absence.

Academic consideration is not normally intended for the following circumstances:

- **Students who require academic accommodation based on an ongoing physical or mental illness (recurring or chronic) or an existing disability.** Students with an ongoing physical illness or mental disorder (recurring or chronic) or an existing disability are responsible, in consultation with their doctors or other health professionals, to determine if they are capable of pursuing their studies and, if so, with what accommodations. Students are expected to seek and arrange reasonable accommodations with Student Accessibility Services (SAS) as soon as possible in accordance with the Policy on Academic Accommodation for Students with Disability. Students with pre-existing accessibility plans arranged through SAS may not need to provide additional documentation when seeking academic consideration where such request for consideration relates to their disability and where their accessibility plans allow for coursework deferral or deadline extensions.
- **Students who experience high levels of stress related to academic performance** (including completing assignments, taking part in presentations, or writing tests or examinations). Students with academic or exam stress should access supports through Student Health and Wellness and Learning Skills Services in order to deal with this stress in a proactive and constructive manner.

- For students that use a self-reported absence (SRA) for a missed assignment the extension will be 5 calendar days from when the assignment was due. For example, if the assignment was due on a Thursday, the extension will make the assignment due the following Tuesday.

8. Make-up Examinations

Makeups will be granted with approved documentation only. All documentation for missed exams must be provided the Academic Counselling Office and Instructor within 48 hours of the scheduled exam. For missed exams, you must take your documentation to Academic Counselling within 48 hours of the exam. Otherwise, the instructor will assign a grade of zero. The format and content of make-ups may differ substantially from the scheduled test or examination.

9. Use of Electronic Devices

No electronic devices, except calculators, will be allowed during tests and examinations. It is your responsibility to know how to use your calculator, and to ensure its functionality during examinations.

10. Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

11. Western's Commitment to Accessibility

The Department of Geography strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities.

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2147 for any specific question regarding an accommodation. Information regarding accommodation of exams is available on the Registrar's website.

More information about "Accessibility at Western" is available.

12.Mental Health

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit Western's Health and Wellness website for more information on mental health resources.

13. Support Services

Western's Support Services
Student Development Centre

14.Important Dates Winter 2020

January 6: Classes resume
January 10: Last day to add a second term half course
February 17: Family Day – Department Office Closed
February 18-23: Spring Reading Week (No classes; Department Office open)
March 7: Last day to drop a second term half course without penalty
April 3: Classes end
April 4 and 5: Study days
April 6-26: Examination Period

Date	Lecture Schedule	Optional Readings
Jan. 7 (W1)	Course Introduction & Introduction to Statistics	
Jan. 14 (W2)	The Research Process	Kumar (Ch. 2)
Jan. 21 (W3)	Sampling and Measurement	Kumar (Ch. 4, 11,12) Burt Ch. 6
Jan. 28 (W4)	Describing Data with Statistics	Burt (Ch. 2, 3)
Feb. 4 (W5)	Probability & Hypothesis Testing	Burt (Ch. 5)
Feb. 11 (W6)	**Mid-term Exam**	
Feb. 18 (W7)	**No Lectures - Reading Week**	
Feb. 25 (W8)	Comparing Two Group Means	Burt (Ch. 9, 10)
Mar. 3 (W9)	Comparing Three or More Group Means	Burt (Ch. 11)
Mar. 10 (W10)	Comparing Frequencies	Burt (p. 398-402)
Mar. 17 (W11)	Correlation and Linear Regression	Burt (Ch. 4, 5)
Mar. 24 (W12)	Correlation and Linear Regression cont.	
Mar. 31 (W13)	Review	

Week #	Lab Schedule	Due Date (specific to assigned lab section)
Week 1	No Lab	
Week 2	No Lab	
Week 3	Lab #1 – Getting Started with R	
Week 4	Lab #2 – Data Presentation	Lab #1 due
Week 5	Lab #3 –Descriptive Statistics & Probability	Lab #2 due
Week 6	**No Lab – Midterm**	
Week 7	**No Lab - Reading Week**	
Week 8	Lab #4 – Difference in Means	Lab #3 due
Week 9	Lab #4 – Difference in Means	
Week 10	Lab #5 – Cross tabulations and Chi-square	Lab #4 due
Week 11	Lab #6 –Correlation and Linear Regression	Lab #5 due
Week 12	Lab #6 –Correlation and Linear Regression	
Week 13	No Lab	Lab #6 due

Midterm Makeup Dates:

- Friday February 14, 9:00 am, SSC 1004